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(Funck) Brid. (*Mielichhoferia nitida*, Hornsch.); *Leptobryum pyriforme*, (L.) Wils. and *Pohlia acuminata*, Hornsch. (*Webera acuminata*, Schimp). We commend this work to students of American mosses, for its conscientious historical research and concise descriptions. E. G. B.

*Monographie der Gattung Stylosanthes.* P. Taubert. (Verhand. Bot. Ver. Brandenburg, xxxii. Reprinted).

This is the first time since the publication of De Candolle's *Prodromus* Vol. ii, in 1825, that the species of this Leguminous genus have been treated of collectively. Herr Taubert now recognizes 22. Of these two are North American: *T. biflora* (L.) B. S. P. (*S. elatior*, Sw.; *Trifolium biflorum*, L.) the binomial attributed by the author to himself, probably not being informed of the fact that it was used in 1888 by the authors of the Preliminary Catalogue of Plants growing within one hundred miles of New York, and *S. hamata* (L.), Taub. (*S. procumbens*, Sw.; *Hedysarum hamatum*, L.), the latter a common West Indian plant, occurring also in Florida and including, according to him, Curtis No. 609 from Tennessee. *S. Schaffneri* from Mexico, *S. sympodialis* from Ecuador and *S. Pohliana* from Brazil are described as new. Of the 22 species, only five occur in the Old World. Herr Taubert, it will be noticed, maintains the earliest specific names. N. L. B.

### Index to Recent Literature on North American Botany.

*Abies Fraseri.* (Gard. Chron. viii. 684, 685, fig. 132).

*Abrus præcatorius.*—*Ueber.* Prof. Kobert. (Sitzungsb. Naturf. Gesell. Dorpat, ix. 114-117).

*Araucaria imbricata.* (Gard. Chron. viii. 587, 588, figs. 117, 118 also full page illustration).

*Aristolochia grandiflora.* (Gard. & For. iii. 596, figs. 78-80).

This remarkable plant, native of the West Indies and tropical America generally, has recently flowered at the nursery of Mr. E. D. Sturtevant, at Bordentown, N. J. The flowers are among the largest of any known, one reaching the extraordinary dimensions of twelve by eighteen inches, with forty-two inches of tail, or a total length of five feet.

*Bilbergia thyrsoidea*, Mart. L. Wittmack. (Gartenflora, xxxviii. t. 1291).

Native of Brazil.

*Biographical Sketch of J. B. Ellis*. F. W. Anderson. (Bot. Gaz. xv. 299-304, with portrait).

*California White Oak—The*. (Garden & Forest, iii. 606, illustrated).

Description and picture of *Quercus lobata*.

*Carica Papaya—Frucht in Frucht von*. Fritz Muller. (Flora, 1890, 332-333).

*Caryocar Brasiliense*. Eug. Warming. (Vidensk. Meddel. Naturhis. For. Kjobenhavn, 1890, 45-48; one plate).

*Cascara Sagrada and its Allies*. H. H. Rusby. (Druggists' Bull., Oct., 1890, ten figures. Reprint, pp. 8).

This is a discussion of the West American species of *Rhamnus*. The drug bearing the above name is derived from the bark of *R. Purshiana*. Dr. Rusby maintains that it is clearly distinct from *R. Californica*, which it most nearly resembles, and that *R. tomentella*, Benth., *R. occidentalis*, Howell, and *R. rubra*, Greene, are also probably distinct.

*Cattleya Schilleriana*, Reichenb. F. E. Ortgies. (Gartenflora, xxxviii. 33, t. 1290).

Native of Brazil.

*Contributions to the Life-histories of Plants. V.* Thomas Meehan. (Proc. Acad. Nat. Sci. Phila., 1890, 266-277. Reprinted).

This number of Mr. Meehan's interesting series contains notes "On the anthers of *Lappa major*;" "The Pollination of *Crucianella stylosa*;" "On Unisexuality in connection with the Order of Flowering in Willows;" "On the Varying Character of Dichogamy in Flowers of *Corylus Avellana*;" "Diœcism in Labiatae;" "Self-fertilizing Flowers;" "On the Male and Hermaphrodite Flowers of *Æsculus parviflora*" and "On the Direction of the Spiral Twist in the leaves of the Norway spruce."

*Eucharis Lehmanni*, Regel. E. Regel. (Gartenflora, xxxviii. t. 1300).

A new Amaryllid from Columbia.

*Euonymus obovatus*, Nutt. H. Zabel. (Gartenflora, xxxviii. 638-640).

A discussion of this species, maintaining it to be distinct from *E. Americanus*.

*Field Notes from the Colorado Desert*. C. R. Orcutt. (Garden & Forest, iii. 558, 559).

*Formation of Travertine and Silicious Sinter by the Vegetation of Hot Springs*. Walter H. Weed. (U. S. Geol. Surv., Ninth Ann. Rep., 619-676, illustrated. Also reprinted).

The author begins by calling attention to the fact that the influence of plant life in building up certain formations is frequently ignored, for the reason that it is only by a careful study of such formations while in actual process of construction that an adequate idea of this influence can be gained. It is no doubt for this reason that the subject has been heretofore neglected, and the author has taken full advantage of a comparatively unexplored field of investigation. The facts upon which this article is based were gathered in the Yellowstone region, but a general review of the literature of thermal spring vegetation precedes the author's own observations. This vegetation is entirely algal, and in the Yellowstone region, does not occur at a temperature above 185° Far. Although this vegetation has been frequently noted and studied to a greater or less extent, its importance in the formation of hot spring deposits does not seem to have received the attention which it deserves. Not only do the plants become encrusted with the mineral matter, but by their abstraction of carbonic acid from the water they hasten the deposition of the carbonate of lime and thus become an important factor in the formation of travertine. In fact, proof is given that in certain places travertine would not form but for the presence of plant life. In only two instances was it found that vegetation was not either directly or indirectly concerned in its formation. Of the numerous forms of travertine none show the vegetable origin more clearly than the fibrous tufa forming fan-like masses. If a fragment of this is dissolved in hydrochloric acid it shows that each of the fibres is formed of a single encrusted alga filament. In the formation of silicious sinter, the algæ seem to act mostly by forming dams or other obstructions of gelatinous material, over which the sinter is deposited. Thus pillars are formed in the interior of pools and rims around the margins. The exact manner in which

the algæ eliminate the silica from solution does not seem to be known, but from what the author says, it is evident that he considers it due directly to the action of the plant's vitality in some way, and he says that both the filaments and their slimy coverings are formed of gelatinous silica. "In general, it may be stated that the large vase and pillar-forms found in the alga pools can be produced only by a concurrent life and death of these plants; the outer layers continually growing, the innermost dying." Besides the sinter formed from the jelly-like masses there are fibrous sinters formed by *Calothrix gypsophila* and *Leptothrix laminosa*. On the lower part of the slope, below the Madison Plateau, a moss (*Hypnum aduncum*, var. *gracilens*) seems to act as an agent in forming sinter, and we are told that "this sinter is not formed by evaporation \* \* \* but is due to the abstraction of silica from the water by the mosses \* \*." The difference between the unaltered sinter, due to simple evaporation of the water and that due to the influence of vegetable life, is quite marked; the former being translucent or vitreous, while the latter is opaque and often chalk-like in appearance. Diatoms are abundant in the cooler waters and form the ooze of the geyser basin marshes. The author has certainly proved a far greater importance for plant life as a rock-building agent than we formerly knew of and it is quite possible that similar studies in other localities would yield equally interesting results.

A. H.

*Gunnera*.—*Eine Brasilianische (Gunnera manicata, Linden.)*

W. Schwanke. (Engler's Bot. Jahrb. xii. Beiblatt nr. 28, 1-3, illustrated).

*Hepaticæ Africanæ Novæ in Insulis Bourbon, Maurice et Madagascar lectæ.* F. Stephani. (Bot. Gaz. xv. 281-292. Pl. XVII-XIX).

Twenty-three new species are described.

*Hepaticæ—List of Canadian.* W. H. Pearson. (Geol. and Nat. Hist. Surv. of Can. Montreal, 1890. Pamph. pp. 31, Pl. XII).

Professor Macoun is to be congratulated on having secured so competent and conservative a student as Mr. Pearson to work up his collections of Canadian liverworts, and we learn with pleasure that the only new species described, *Frullania Selwyn-*

*iana*, is dedicated to A. R. C. Selwyn, the Director of the Survey. Two of Austin's MSS. names are printed, and 165 species are enumerated. The plates are lithographed from drawings by the author, and notes by Dr. Spruce add interest to the list. A full index of names and synonyms, and a correct system of nomenclature, make this a memorable contribution to our knowledge of North American hepaticæ. E. G. B.

*Hippeastrum reticulatum*, *Herb.* L. Wittmack. (*Gartenflora*, xxxviii. t. 1297).

Native of southern Brazil.

*Jamaica*—*Bulletin of the Botanical Department.* December, 1890. Contains Part ii of the synoptical list of ferns and their allies, by G. S. Jenman.

Twenty-five species of the genus *Trichomanes* are enumerated.

*Jamesia Americana*, *Torr. and Gray.* H. Zabel. (*Gartenflora*, xxxviii. 103, 104; two figures).

*Lakeside Daisy*—*The.* Clarence M. Weed. (*Journ. Columbus Hort. Soc.* v. 72, 73, Pl. VI).

The discovery is reported from the Sandusky Peninsula, near Lakeside, Ohio, of *Actinella acaulis*, where it appears to be thoroughly established. This is certainly an interesting find and we should not now be surprised to hear of its discovery at other intermediate points between there and its ordinary habitat west of the Mississippi.

*Leo Lesquereux*.—*Obituary Notice of.* J. P. Lesley. (*Proc. Amer. Philos. Soc.* xxviii. 65–70).

*Leucophyllum Texanum.* (*Garden & Forest*, iii. 488, 489, fig. 63).

*Lilium superbum.* (*Garden*, xxviii, 506, 507; illustrated in text and with colored plate).

*Liriodendron*—*Notes on the Leaves of.* Theodor Holm. (*Proc. U. S. Nat. Mus.* xiii. 13–35; plates IV–IX; reprinted).

This paper consists of a detailed description of the leaves of the Tulip-tree, and a discussion of the relations of the several fossil (Cretaceous and Tertiary) species which have been described by Dr. Newberry (*BULLETIN*, xiv, 1–7), Lesquereux,

Heer, and other authors. Reasoning from the well-known variability of the foliage of *L. Tulipifera*, many forms of which are illustrated on the accompanying plates, Mr. Holm is inclined to maintain that the three species described by Dr. Newberry from the Amboy clays are forms of a single one; this hypothesis, indeed, appears to be the main object of the paper.

Mr. Holm's work indicates much research. He has, however, made one mistake, and that we believe a most serious one. We refer to the fact that he has not seen the specimens on which Dr. Newberry's paper was based, but has written all these pages on the information to be derived from the single figures of the three species alluded to. Since that paper was written an immense amount of additional material has been derived from the Amboy clays, and enough of *Liriodendron* to support the species indicated in the original descriptions. If Mr. Holm had taken the trouble to come to New York we could have shown him more in *Liriodendron* than he has hitherto had opportunity to inspect.

N L. B.

*Lonicera oblongifolia*, Hook. and *L. villosa*, Muhl. H. Zabel. (Gartenflora, xxxviii. 526, 527).

*Mamillaria Grusoni* and *Echinocactus Bolansis*. E. Runge. (Gartenflora, xxxviii. 105, 106; two figures).

Two new Cacti from Coahuila, Mexico.

*Masdevallia Chimæra*, Reichb. f. G. Sommer. (Gartenflora, t. 1311).

Native of New Grenada.

*Notes from a Garden Herbarium.*—II. L. H. Bailey.

This article treats of raspberries and blackberries. *Rubus villosus*, *R. villosus*, var. *frondosus*, *R. neglectus* and *R. occidentalis* are figured and described and two new varieties of *R. villosus* are also described, viz.: var. *albinus*, founded on the creamy white fruit, and var. *sativus* which has larger, more globular fruit than the species. This latter is stated to be the parent of nearly all the cultivated varieties of high blackberries.

*Notes on Rare East Tennessee Lichens.* W. W. Calkins. (Am. Nat. xxiv. 1078, 1079).

*Notes on the Flora of the Lake Superior Region.*—III. E. J. Hill. (Bot. Gaz., xv. 304-311).

In this contribution the botanical features in the vicinity of Vermillion Lake, Minnesota, are described. *Caltha natans* is noted from the neighborhood of Tower.

*Notes Sur le genre Trentepohlia, Martius.* M. Paul Hariot. (Jour de Bot. Paris, 1 Nov. 1889,—16 Mai. 1890).

The following species occur in the United States: *Trentepohlia aurea* (L.), Martius; *Trentepohlia abietina* (Flotow), Hansgirg; *Trentepohlia effusa*, (Krempelhübler,) Hariot (*T. setifera*, Farlow); *Trentepohlia odorata* (Wiggers), Wittrock; *Trentepohlia rigidula* Müll. Arg.) Hariot. (*T. tortulosa*, Willdeman), might occur in the Southern United States.

*Otacanthus, Lindl. und Irhe Verhältniss zu Tetraplacus, Radlk.*  
—*Die Gattung.* P. Taubert. (Engler's Bot. Jahrb. xii. Beiblatt nr. 28, 111-116).

*Pachystima Canbyi, A. Gray.* H. Zabel. (Gartenflora, xxxviii. 138, 139).

This rare shrub of the Southern Alleghanies is in cultivation at the Garden at Münden, Germany; it is said to endure the winter well, but to grow very slowly.

*Pinus ponderosa.* (Gard. Chron. viii. 559, 558, fig. 110, 111, 114, 115).

*Prairie Flowers of late Autumn.* Byron D. Halsted. (Pop. Sci. Monthly, xxxviii. 229-236).

*Prickly Lettuce.—An Introduced Weed.* Miss F. Detmars. (Journ. Columbus Hort. Soc. v. 53, 54, Pl. iv).

From this article it is evident that *Lactuca Scariola* is becoming a troublesome weed in parts of Ohio.

*Promising Wild Fruits.—III.* A. A. Crozier. (Am. Garden, xi. 712-714, illustrated).

Consists of notes upon *Castanea Americana*, *C. pumila*, *Prunus serotina*, *P. Pennsylvanica*, *P. pumila*, *Rubus Chamæmorus*, *R. leucodermis* and *Asimina triloba*, the latter figured.

*Pyrenomycetes, The North American: A Contribution to Mycologic Botany.* By J. B. Ellis and B. M. Everhart, with original illustrations by F. W. Anderson. Published by Ellis and Everhart, Newfield, New Jersey, 1891.



We have been favored with the title-page and advance plates of this important contribution to the knowledge of North American Fungi. It is to contain about 600 pages and 41 plates, and will practically be a manual of the N. A. Pyrenomycetes. The arrangement will be in the main like that in Winter's Pilze, as being more natural than that of Saccardo. The plates are artistic as well as accurate, having been drawn in all cases from fresh material, and reflect much credit on Mr. Anderson for patience and skill.

*Rhodostachys Andina*. J. G. Baker. (Bot. Mag. T. 7148).

*Scaphiosepalum pulvinare*. (Bot. Mag. T. 7151).

*Shepherdia argentea* und *Elæagnus argentea*. W. Siehe. (Gartenflora, xxxviii. 625-627, fig. 89).

*Solidago speciosa*. (Garden & Forest, iii. 560, fig. 74).

*Supplement til St. Croix's og Jomfrusernes Flora*. H. F. A. Eggers. (Vidensk. Medd. Naturhis. For. Kjobenhavn, 1890, 11-21).

An enumeration of species additional to the flora of the West Indian Island of St. Croix. *Vanilla aphylla* is described as new.

*Symbolæ ad Floram Brasiliæ centralis cognoscendam*. Eug. Warming. (Videnskab. Meddel. Naturhis. Foren. Kjobenhavn, 1889, 1-10; 22-44; 327-357; two plates).

These papers include an enumeration, with descriptions of new species, of the plants recently collected by Dr. A. Glaziou. The Sapotaceæ, contributed by C. Raunkier, include new species of *Mimusops*, *Sideroxylon*, *Lucuma* and *Chrysophyllum*, the Vochysiaceæ, by E. Warming, new species of *Vochysia*; the Scitamineæ by O. G. Petersen, new species of *Calathea*, *Maranta*, *Saranthe*. There are also citations of all Dr. Glaziou's numbers published in recent part of the Flora Brasiliensis, making a nearly complete record of the collections of this distinguished explorer in central Brazil.

N. L. B.

*Tigridia Pringlei*, S. Wats. L. Wittmack (Gartenflora, xxxiii. 320-322; fig. 51).

*Tillandsia streptophylla*. L. Wittmack (Gartenflora, xxxviii. 288, 289; one figure).

Native of Central America.

*Tupelo Tree*—*The*. (Garden & Forest, iii. 485, 486, illustrated).

Includes a full page picture of typical trees of *Nyssa aquatica*.

*Viburnum*—*Arten aus der Gruppe Lentago*. *Die Nordamerikanischen*. H. Zabel. (Gartenflora, xxxviii, 461-463).

This is an account of some of our species of *Viburnum* as understood by Herr Zabel. A new variety *subpedunculatum* of *V. Lentago* is described, and also a supposed hybrid between *V. Lentago* and *V. nudum*=*V. Vetteri*. All these studies are based on garden specimens.

*Washingtonia robusta*, *H. Wendl.* L. Wittmack (Gartenflora, xxxviii. 300-302; one figure).

A description of this California palm as studied in cultivation.

*Wild Carrot*. Aug. D. Selby. (Journ. Columbus Hort. Soc. v. 70-72).

A brief history of references to *Daucus Carota* in local catalogues and quotations from laws enacted designed to prevent its spreading.

*Yucca gloriosa*. (Gard. Chron. viii, 692, fig. 136).

*Zizania aquatica*. L. Wittmack. (Gartenflora, xxxviii. 262-266; three figures).

### Proceedings of the Club.

The regular meeting was held on December 8th, the President in the chair, and twenty-two persons present.

Miss Elizabeth Doughty and Mr. J. T. Kane were elected active members.

Dr. Eccles read the announced paper of the evening, "Notes on the Flora of the Western Desert." It was profusely illustrated by specimens and lantern slides.

Dr. Britton read a note just received from Prof. Conway Macmillan, announcing the discovery of *Salvinia natans* in a lake